

---

# THE PLOTTER

---

CLACKAMAS COMPUTER APPLIED  
TRAINING SOCIETY  
NEWS LETTER

\*\*\*\*

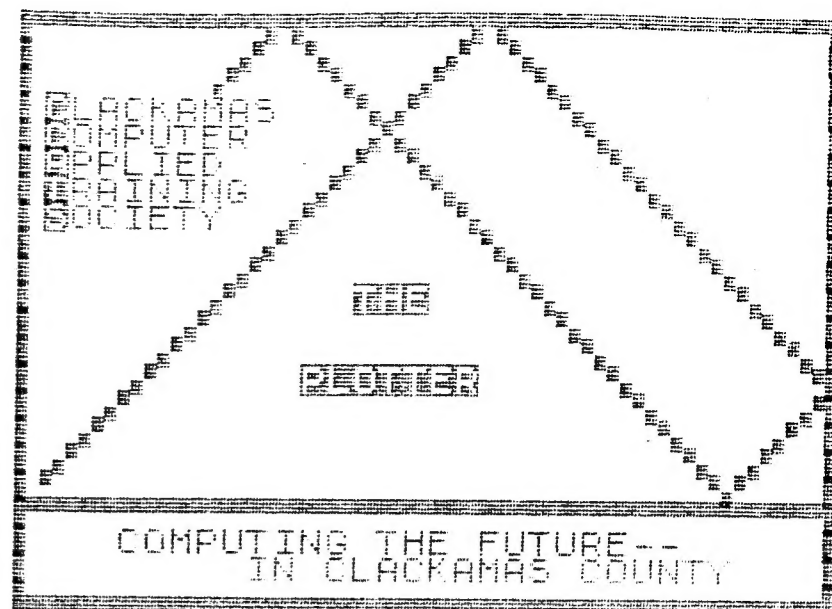
VOLUME 12

\*\*

NUMBER 1

\*\*\*\*\*

JANUARY 1994



---

EDITED BY:	DICK WAGNER
CHAIRMAN:	JACK ARMSTRONG
V/CHAIRMAN:	BILL DUNLOP
SECRETARY:	DICK WAGNER
TREASURER:	ROD GOWEN
PR OFFICER:	BOB EVANS
LIBRARIANS:	BILL DUNLOP ALICE DUNLOP

---

## MEETING

The JANUARY meeting will be:

on: SUN., JANUARY 16 1994

MEETING 2:00 TO 5:00 P.M.  
at: Rod Gowen's home  
14784 S. Quail Circle  
Oregon City

---

## WHAT YOU WILL FIND IN THIS ISSUE:

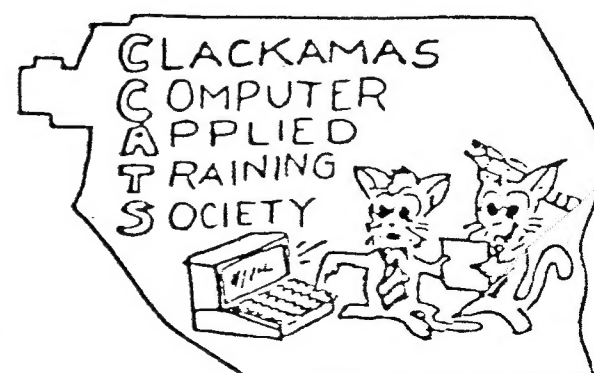
MEETING-----PAGE 1  
FROM THE EDITOR'S DESK-----PAGE 1,2  
BITS & BYTES-----PAGE 2,3  
DUES DUE-----PAGE 3,4  
BOOK REPORT, THE AMATEUR PACKET  
RADIO HANDBOOK-----PAGE 4,5,6  
CALENDAR-----PAGE 7,8  
RMS UPDATE-----PAGE 9  
SOME T/S 1000 TYPE GRAPHICS--PAGE 10  
NOTICE, ADS, SUB. RATE-----PAGE 10

---

## FROM THE EDITOR'S DESK

Now for starting a new year with THE PLOTTER. I hope we can continue to provide 8 pages in each issue but at times it gets to be a very real problem. Rod Gowen has provided some very interesting material and articles in the past. We hope this will continue, but with his failing eye sight we must expect a reduction in his contributions. Now, if someone would just step forward and start writing it would be gratefully received.

I thought that I would have to give up the Editor position at the beginning of 1993 due to my wife's infliction with the dreaded Alzheimer disease but I have been able to devote the required time even tho some issues have been later than I would like. I have had to do practically all of the computer work late at night after my wife retires, which means later than midnight at times. Kind of rough when the wife wants to get up and be dressed at 3-4 AM. Mostly I can get her to change her mind about this and wait until 6 AM. I must say that I find



Continued from page 1  
the computer a GREAT mental reliever. If I wasn't doing these news letters with a rather fixed completion time each month I think I would find it more difficult to face my problems every day.

This issue has a "scoop" of sorts as we have information on a just-out book on Packet Radio that is designed to get the neophyte into this interesting subject of computer use. We have 2 members who are skilled hams and have worked into Packet operation with many interesting contacts. In place of Morse code or voice, the computer, monitor, and radio are the tools to use. Due to the high frequency used in transmission, direct line of sight is required to make "connection" with another ham operator. So there are stations off in the wilderness on high points that are remote controlled to receive a signal and then re-transmit on a different frequency. The operator must send his transmission to each such node, working out the sequence and stations to arrive at a distant receiver. For instance, the simple transmission between Albany, OR and Salem, OR requires several re-transmissions.

The lowly ZX 81, T/S 1000, T/S 1500 can now be "cloned" on a MSDOS type computer. Now you can use those many programs that are on tape and save them thru this cloning to disk! Rod has details in this issue. This just about completes the T/S-MSDOS conversions as the 2068 in Spectrum mode can also be used this way.

At this time we have 14 paid subscribers to THE PLOTTER which helps immensely in covering the cost of publishing and mailing. These subscribers are on an annual basis but are effective in any of the 12 months. Thus at almost any month renewals may be received. Rod will get a list of subscribers and effective dates so he can determine the amount remaining from each subscription. This should help him determine rather closely just what our financial balance is. In other

words, each subscriber pays in advance so we are committed to provide so many copies each month.

We hope readers found last month's article on re-inking printer ribbons interesting. I have a semi-finished re-inker I have used successfully on the Epson ribbons I now use. We will see about articles on this subject in the future.

In the past I have mentioned that one of my 3 sons owns a machine shop that uses computers in the office and on 4 of the production machines. One office machine is used a great deal for CAD (computer aided drafting/drawing/designing) work. Recently this machine acted up with odd characters, "garbage", and other oddities showing up on the printer. Thinking his printer was at fault he called a printer service company. The repairman quized him on what was wrong and told him to always check cables by replacement as a beginning. Sure enough, that was it. A defective data line (there are eight in parallel printers) was the culprit. At a test, he used this defective cable on another printer with the result that it worked perfectly! No doubt moving the cable cause a contact to be made.

Last month our Bill Dunlop further explored his coding system for keeping record of merchandise. He brings up an interesting point that he has received inquiries on this subject. Very nice to know that not only do our articles get read but some provide a practicle purpose. Keep it up, Bill. Now how about some more articles?

## BITS & BYTES

by: Rod Gowen

In this column I try to bring you the latest and complete information and news available to me regarding the world of TS computing. One way that I can accomplish this is if I have the support of you, the reader, in collecting news that may be of interest to other readers. If you have any news, rumors or other tidbits of information that fits this description, why not send it along? We will be watching!

## OUR DECEMBER MEETING---

was probably the smallest one of the year! With only Dick and myself attending, we still managed to get a bit of work done on the book. We are now working on the index for the various sections. Once this is complete, we will be almost ready to start the final publishing process. We can get the master copies made and do a final proof and then we will be ready to put the book out! I certainly hope that we get a bigger turn out in January!

## DUES TIME!!---

That's right! It's time to pay your annual tribute to CCATS to keep THE PLOTTER coming in your mailbox. See the article elsewhere in this issue regarding the dues and the costs involved in putting out the newsletter.

## LIBRARY ADDITION----

Our software library now includes a copy of the public domain version of PSION'S XCHANGE for the QL. If anyone would like a copy of it, let me know. It will fit on one DSQD (2 SIDE/QUAD DENSITY) disk or on 3 DSDD diskettes. If you send the disks and a pre-paid mailer to return them, the program will cost you nothing. If we supply the disks and postage, it will cost you \$7.50 for a copy of it. We have a lot of good things in our library. Check it out! (Note: Paid members have full access, non-members may order PD disks at regular cost.)

If you have an interest in running your old ZX81/TS1000 programs on your IBM clone, you can now do it! Even with machine code! RMG has a copy of the XTENDER ZX81 EMULATOR for the IBM clone in the public domain library. It is available for the regular PD/shareware cost of \$5 postpaid in your choice of media: 3.5" 720K or 5.25" 360K diskettes. The documentation is pretty thorough and is in file form so you can print it out yourself. There are over 40 pages! The author is Carlo Delbez and he calls this the "Preliminary version 0.64". To what? He may be planning a version 1 that will be commercial. The disk we have also

has several software titles added to it by Robert Gilbert from Boston. He wanted to make sure that it did what the author said so he added many titles. The author is also said to be working on a tape interface to allow the loading of ZX81/TS1000 programs directly into an IBM clone! How we have a Spectrum emulator, a ZX81/TS1000 emulator and a QL emulator for the IBM machines. The best of both worlds may be here at last!

## JANUARY MEETING DATE--

Our January meeting will take place on January 16, 1994 at 2:00 PM until 5:00 PM at the home of Rod Gowen. If you need directions, just call RMG. Hope to see you there!

That's it for now!

See you next time. . .

# DUES DUE!

by: Rod Gowen, Treasurer

Hey gang! It is time once again to dig deep and come up with your yearly contribution to the group! Your annual dues are due, and, just like the Fed, we are in real need this year! The treasury will NOT support another year of newsletters without a major transfusion of \$\$\$\$! If you wish to become or stay an active member of CCATS, then you will be asked to come up with your dues at the January meeting. If you will not be at the January meeting, just make out your check to CCATS and mail it to the address on the back of this newsletter.

Just as last year, we need all existing members to renew if we want to continue as a viable group. We are now down to 10 members or less locally. It sure seems a shame that we cannot lure more computer users into the group with all the experience and knowledge that we have to offer! At current levels of operating costs, we need about \$350-400 per year to continue to publish and mail THE PLOTTER. We have about \$150 left in our account

>> >>



and so would need to gain \$200-250 to continue. With 10 paid members at \$15 and 15 paid subscribers at \$10, we will come up with about \$300 if all renew. With what we still have we will be able to make it for one more year. BE WARNED! IF THE MONEY RUNS OUT, THE PLOTTER WILL CEASE TO EXIST UNLESS WE CAN FIND A SPONSOR! We would, of course, complete any subscriptions, but that would be all we could do. The dues are \$15 per year, but you can donate extra if you like. Dick Wagner and myself will probably be able to donate some of the paper and materials needed to keep THE PLOTTER going.

Our project - THE BEST OF THE PLOTTER book - may bring us a few dollars this year. We are in the final stages of the paste-up and indexing at this time. Hopefully, it will be ready for publication in February. Please let us know if you would be interested in purchasing a copy of this long awaited book. Get your name on the pre-book list so that we know how many copies to have made on the first run.

Please get your dues and subscriptions in early and help us keep THE PLOTTER alive and well!

## BOOK REPORT

### The Amateur Packet Radio Handbook, Volume I

Our "book of the month" is on a subject most of us do not have much information about. The announcement mainly identifies each chapter subject, etc. I have started to read the book and find the first few chapters quite palatable. It should be quite interesting when I get into the actual operations part. The book is in 8 1/2 by 11 format with a nice open-flat binder. The quality of printing is First Class.

For would-be writers, I can provide the following details. The book is done on a MacPlus using MicroSoft Word 4.0. The computer has 2.5 Meg.

of memory and a 40 Meg. LaCie hard drive. Printing was done on a HP DeskWriter (bubble jet) which operates at 600dpi. The book is a copy of the actual printer output.

The book is primarily in Bookman font (similar to Courier). For contrasting situations, helvetica and Chicago (used for accent) are included. Some text sections show actual on-the-air typing. These are copied from the terminal screen, then pasted into a text document for later use.

Illustrations are done with MacDraw (PICT format). Many are "pasted" into the Word document, but some like section separators, are printed separately.

The book occupies about 1 1/2 800K disks (3.5"). Thus, it is about 1.2 Meg. counting illustrations.

Jim uses a hand held type radio so this part of the equipment does not consume much space. The node he uses most often is located on Mary's Peak, west of Corvallis, OR. It is operated by the amateur radio club he belongs to.

As nodes can become very complex in "programming" routes, Jim has developed a group of maps for the western US that show those nodes that are useable in line of sight use. These were printed on the same printer. I must say that definition is great and there is practically no discernable jagged printing of the lines that go in all kinds of angles.

There will ultimately be a Book 2 on this subject. It will be technical and cover a great amount of detail that is normally of little interest to many Packet Radio operators.

>> >>

## NEW BOOK ANNOUNCEMENT

At last there is a book about packet radio which goes beyond "how to buy a TNC and use a BBS". "The Amateur Packet Radio Handbook, Volume 1" by Jim Wagner, KA7EHK, covers a broad spectrum of information about packet radio. An order form is on the reverse side of this page. Its 200+ pages contain the following chapters:

- CH 1. WHAT IS PACKET RADIO? (4 pages) What it is; What Hams do with Packet Radio; What it works well for
- CH 2. EQUIPMENT (9 pages) Terminals; Modems; A Note about Modem Commands; Radios; Assembling a packet station
- CH 3. LOCAL CONVERSATIONS (11 pages) Making a connection; Mailboxes; Digipeating; Limitations; Antennas; Basic TNC Parameters
- CH 4. INTERMEDIATE OPERATING (22 pages) Operating "hints"; Keyboard Use; That Blankety-blank \*\*\*\*DISCONNECTED"; What the TNC "monitor" function tells you; More about SSIDs; Operating on Node Frequencies; TNC Parameters; Mail Boxes; The TNC Light Show; The TNC Internal Clock; Computer-TNC Baud Rates; Station Layout; When a TNC Quits
- CH 5. PACKET SERVERS (9 pages) Nodes; Bulletin Boards; Converse Servers; Callbook Servers, Internet Gateways; DX Spotting; Summary
- CH 6. BULLETIN BOARDS (10 pages) How a Bulletin Board Works; Messages, Bulletins; NTS Traffic; WhitePages; Common Customs; The BBS and the Packet Network
- CH 7. DX SPOTTING NODES (23 pages) Use of DX Spotting Nodes; Logon; DX Spotting Server; Conference Server; Mail Server; Time Server; Heading Server; WWV Server; Data Base Server; Callbook Server; Other DX Spotting Nodes; Summary
- CH 8. PRINCIPLES OF RADIO NETWORKING (10 pages) What is a Network? Why have Networks? Networking Nodes & Switches; Network Architecture; What's in a Node? Summary
- CH 9. NET/ROM NETWORKING (16 pages) What is NET/ROM networking? Net/Rom Nodes; Basic Node List; Route Quality; Autorouting; Managed Route Quality; The Lost Node Problem; Why Autorouting Doesn't Always Work; Node Names; Route Lists; Working over distances
- CH 10. NON-NET/ROM NETWORKING (11 pages) KaNodes; TexNet Networks; ROSE Networks; TCP/IP Networks; FlexNet Networks; Summary
- CH 11. PACKET PROTOCOL (13 pages) What is a Protocol?; The Layer Model; A Layer Model Story; AX.25 & the Physical Layer; Datagrams and Virtual Circuits; Some Examples of Packet Protocol; AX.25 Packet Contents; Summary
- CH 12. H.F. OPERATION (7 pages) Equipment; TNC Settings; Frequencies; Operating Practices; KaNodes on HF; Summary
- CH 13. PACKET SATELLITES (18 pages) What's Up? Finding Satellites; More Information
- CH 14. FILE TRANSFERS (5 pages) Text File Transfer; Non-Text Files; File Transfer Cipher? File Transfer Summary
- CH 15. TCP/IP (9 pages) What Is TCP/IP? Addressing; TCP/IP Message Transport; Hosts, Clients, Servers & Sessions; Telnet; Simple Mail Transfer Protocol (SMTP); File Transfer Protocol (FTP); Address Resolution Protocol (ARP); A Little Bit (More) About Internet; A Word About Software; Mixing TCP/IP & AX.25
- CH 16. DO YOU REALLY WANT TO OPERATE A NODE? (4 pages) Does the Network Need Another Node? What's the Downside? And the Payoff? A Plea!
- CH 17. DO YOU REALLY WANT TO OPERATE A BBS? (4 pages) Does the Network Need Another BBS? What's the Downside? And the Payoff? A Plea!
- CH 18. WHAT'S COMING? (6 pages) Higher speeds; Microwave; Full Duplex Operation; Network Structure; IP routing; Other Futures

INDEX FOR VOLUME 1

## BOOK ORDER FORM

Please send me \_\_\_ copies of "The Amateur Packet Radio Handbook, Volume 1".

Pricing:	Book	<u>\$15.00</u>	
	Shipping:	<u>+</u>	> enter here one of the following:
	Total:	_____	Domestic Book Rate \$2.00
Number of books:	<u>X</u>	_____	Domestic First Class \$3.00
Total price:	_____	_____	International Surface \$4.00
			International Air \$6.00

This edition will have significant rewrites to correct errors and add topics which have been missed. You can subscribe to a Spring, 1994, update. This will include all pages changed by rewrite including Table of Contents and Index. The cost for the update is \$2.00 domestic, \$3.00 international, per copy.

Add to my order \_\_\_ updates at \_\_\_\_\_ (each) for a total of \_\_\_\_\_.  
Add this to the total price, above, for total order cost: \_\_\_\_\_. Please remit in U.S. funds in a form readily payable at a U.S. bank. Domestic orders may be paid by check or money order. Please allow 2 weeks for domestic delivery. Your order carries a 30 day money-back satisfaction guarantee.

Check here if you want to be notified when Volume 2 is available: ( )

Shipping Address: Name \_\_\_\_\_  
Street \_\_\_\_\_  
City \_\_\_\_\_  
State/Province \_\_\_\_\_ Call \_\_\_\_\_  
Postal Code \_\_\_\_\_ Country \_\_\_\_\_

Please fill out a separate order form for each ship-to address. You may include more than one form in a single order. Feel free to make copies of this form.

Mail this order form to: Oregon Research Electronics  
31677 N. Lake Creek Drive  
Tangent, OR 97389 USA

Thank you very much for your order and  
Good Packeteering!

# 1994

## RMG Enterprises

January						
S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

February						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28					

March						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

April						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

May						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

June						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

### January

1 New Year's Day  
 16 2:00pm CCATS Meeting  
 17 Martin Luther King, Jr.

### February

12 Lincoln's Birthday  
 14 Valentine's Day  
 16 Ash Wednesday  
 20 2:00pm CCATS Meeting  
 21 President's Day  
 22 Washington's Birthday

### March

17 St. Patrick's  
 20 Spring begins  
 2:00pm CCATS Meeting  
 27 Palm Sunday

### April

1 April Fools Day  
 Good Friday  
 3 Daylight Savings--set ahead 1 hour  
 Easter  
 17 2:00pm CCATS Meeting

### May

8 Mother's Day  
 15 2:00pm CCATS Meeting  
 21 Armed Forces Day  
 30 Memorial Day (Observed)

### June

12 2:00pm CCATS Meeting  
 14 Flag Day  
 19 Father's Day  
 21 Summer begins

### July

1 Dominion Day (Canada)  
 4 Independence Day  
 17 2:00pm CCATS Meeting

### August

21 2:00pm CCATS Meeting

### September

5 Labor Day  
 18 2:00pm CCATS Meeting  
 23 Autumn begins

### October

10 Columbus Day (Observed)  
 16 2:00pm CCATS Meeting  
 30 Daylight Savings--set back 1 hour  
 31 Halloween

July						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

August						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

September						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

October						
S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

November						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

December						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31



# 1994

## RMG Enterprises

January						
S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

February						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28					

March						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

April						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

May						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

June						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

November	
11	Veterans Day
20	2:00pm CCATS Meeting
24	Thanksgiving
December	
18	2:00pm CCATS Meeting
21	Winter begins
25	Christmas

July						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

August						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

September						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

October						
S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

November						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

December						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31



# RMG UPDATE NEWS FOR JANUARY 1994

## VOLUME 6 NUMBER 1

### \*\* RMG NEWS \*\*

Welcome to 1994! We at RMG certainly want to wish all of you the very best in this new year. From the things that we have been hearing and seeing on the various TV programs, 1994 is going to be a fantastic year in the world of computers. With the amazing growth in the CD-ROM industry--sales of drive units expected to reach 5 million by year's end. The CD-ROM software industry is the fastest growing end of the software business and is expected to be more than 5 times what is today by the end of 1994. Virtual reality software is being refined and we will probably see a big improvement in this by this time next year. The new Pentium CPU is expected to reach the same level that the 486 is at right now. And just look at the small computers coming along! the new ZOOMER from Tandy and the others that will soon be available. We, at RMG, see from 3-6 new and revised catalogs and price lists arrive in the mail each day from an ever-growing number of suppliers. We can hardly keep up!

We are not likely to forget our roots--the Timex Sinclair computer still amazes us with its power and versatility. We have customers running businesses and clubs with them and really have no need to go out and spend thousands of dollars to do the same job. As long as these and others like them are out there using the TS line of computers for fun or profit, we will continue to support them.

We don't see a lot of new and exciting hardware and software coming along for the TS computer users, but we do see some innovative and useful ways to make use of what is already out there. With over 15 active user groups putting out some rather interesting newsletters, it is in your best interest to join or at least subscribe to as many as you can afford. Your support will ensure that they keep publishing. I know that I have probably earned more from newsletters than from all other sources combined when it comes to my knowledge of the TS line of computers. Why not try a new one soon? Look in your back issues of RMG UPDATE NEWS for a list of the most active groups/newsletters.

We are including a 1994 calendar this time. We hope that it is something that you can make use of. If you do not want it, pass it along to a fellow computerist who may be able to use it. Thanks.

There are a couple of new listings and some other changes in this month's consignment sales. Look them over carefully so that you don't miss a real find! Also, please remember--RMG COUPONS AND DISCOUNTS DO NOT APPLY TOWARD ITEMS ON THE CNSN- PAGES. These are not our property and therefore, for the most part, we are unable to change or discount prices at will.

KEEP WATCHIN' FOR MORE NEWS! Rod Gowen, Owner, RMG Enterprises  
14784 South Quail Grove Circle, Oregon City, OR 97045  
503/655-7484 8AM-6PM PT \* FAX/VOICEMAIL: 503/655-4116 24 HRS

# SOME T/S 1000-TYPE GRAPHICS

Here are a few T/S 1000 type shapes that might come in handy. They were printed on a large printer using the graphic shapes on 2068 numbered keys plus UD graphics for cross hatching.

See Volume 10, NO. 4 for details.

TANK



AUTO 2



FIELD GUN



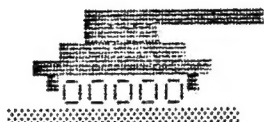
FLY



TRUCK



TANK #1



AIR PLANE



COW BOY



## -NOTICE-

Opinions expressed in articles are not necessarily those of members of the Clackamas Computer Applied Training Society . Meeting minutes carry the consensus of members present at meeting. This newsletter nor staff will not be held liable for any damage or consequences due to following instructions, or review of products as contained in this newsletter

### SUBSCRIPTION RATES

FREE SUBSCRIPTION WITH PAID  
CCATS MEMBERSHIP-\$20.00/YR

### PLACE YOUR AD HERE

### AD RATES

\*\*\*\*

1 FOUR LINE CLASSIFIED FREE  
WITH MEMBERSHIP

\$ .50 / LINE  
\$ 5.00 / 1/4 PAGE  
\$ 8.00 / 1/2 PAGE  
\$ 15.00 / FULL PAGE

ALL AD COPY MUST BE IN BY  
THE 10TH OF THE MONTH PRIOR  
TO THE MONTH AD IS TO RUN.

CCATS

14784 S. Quail Grove Circle  
Oregon City, OR 97045



(place label here)